

CLAIMS:

1. A multi-layer seat pad for a cyclist garment, comprising:  
an inner layer for contacting the cyclist;  
an outer layer for affixing to the garment; and  
a compressible, resilient middle layer disposed between the outer and inner layers;  
wherein the outer layer covers less than all of the inner layer.
2. The multi-layer seat pad of claim 1, wherein the outer layer includes a shape and a size different than a shape and a size of the inner layer such that the outer layer does not complement the inner layer.
3. The multi-layer seat pad of claim 2, wherein the outer layer includes a width less than a width of the inner layer.
4. The multi-layer seat pad of claim 2, wherein the outer layer includes a length less than a length of the inner layer.
5. The multi-layer seat pad of claim 1, wherein the inner layer includes a thigh portion for contacting a thigh area of the cyclist and wherein the outer layer does not cover the thigh portion of the inner layer such that the thigh portion is affixed directly to the garment.
6. The multi-layer seat pad of claim 1, wherein the inner layer comprises a rear portion and an opposite front portion having a width less than that of the rear portion, the rear portion for contacting a buttocks region of the cyclist and the front portion for contacting a crotch and lower abdominal region of the cyclist.
7. The multi-layer seat pad of claim 6, wherein the outer layer is a generally planar, elongate member which does not complement a size and/or shape of the inner layer.

8. The multi-layer seat pad of claim 1, further comprising a plurality of perforations formed through the seat pad so as to traverse through the inner, middle, and outer layers.
9. The multi-layer seat pad of claim 8, wherein the perforations each comprise a recess inset into a thickness of the seat pad and a hole formed through the seat pad at the recess.
10. The multi-layer seat pad of claim 9, wherein the recess comprises a portion of the inner, middle, and outer layers being permanently compressed.
11. The multi-layer seat pad of claim 9, wherein the recesses comprise first recesses disposed at the inner layer and second recesses disposed at the outer layer, the first and second recesses being disposed oppositely and correspondingly such that the holes traverse through the seat pad from the first recesses to the second recesses.
12. The multi-layer seat pad of claim 8, wherein the perforations are formed through the seat pad in an area corresponding to a buttocks region of the cyclist.
13. The multi-layer seat pad of claim 8, wherein the perforations are formed through the seat pad in an area corresponding to a crotch and a lower abdominal region of the cyclist.
14. The multi-layer seat pad of claim 1, wherein the inner and outer layers comprise a woven cloth-like material and the middle layer comprises a foam material including a plurality of foam layers, one of the foam layers extending beyond the outer layer to cover substantially all of the inner layer.

15. The multi-layer seat pad of claim 1, wherein the inner, middle, and outer layers are fixed together such that the seat pad comprises a generally planar elongated member having a front end and an opposing rear end, the rear end being wider than the front end.

16. The multi-layer seat pad of claim 15, further comprising:

a central area for contacting a buttocks and a crotch of the cyclist, the central area extending from the rear end towards the front end of the seat pad and being disposed centrally about a longitudinal axis of the seat pad; and

an outer area for contacting an upper thigh of the cyclist, the outer area being disposed around the central area.

17. The multi-layer seat pad of claim 16, wherein the central area includes a thickness greater than a thickness of the outer area, and the outer layer extends across an entirety of the central area and the outer layer extends across only a portion of the outer area.

18. The multi-layer seat pad of claim 1, further comprising a permanently compressed area of the inner, middle, and outer layers formed as a line for providing flexibility to the seat pad.

19. The multi-layered seat pad of claim 1, wherein the outer layer includes a surface area of approximately 50-90% of a surface area of the inner layer.

20. The multi-layered seat pad of claim 1, wherein the outer layer includes a surface area of approximately 60-80% of a surface area of the inner layer.

21. The multi-layered seat pad of claim 1, wherein the outer layer includes a surface area of approximately 70-80% of a surface area of the inner layer.

22. The multi-layered seat pad of claim 1, wherein the outer layer includes a surface area of approximately 75% of a surface area of the inner layer.

23. A cycling garment, comprising:  
a crotch portion to be worn proximate a crotch area of a cyclist;  
a multi-layer seat pad disposed at the crotch portion for engaging the crotch area of the cyclist, the seat pad including an inner layer for contacting the cyclist, an outer layer for affixing to the garment, and a compressible, resilient middle layer disposed between the outer and inner layers, wherein the outer layer covers less than all of the inner layer.
24. The cyclist garment of claim 23, wherein the garment comprises cycling pants or shorts and wherein the inner layer comprises an upper thigh portion for contacting an upper thigh area of a cyclist, the outer layer being shaped and sized so as not to be disposed on the upper thigh portion such that the upper thigh portion affixes directly to the garment.
25. A method of manufacturing a multi-layer seat pad for a cyclist garment, comprising:  
forming an inner layer for contacting the cyclist;  
forming a compressible, resilient middle layer;  
affixing the middle layer on the inner layer;  
forming an outer layer for affixing to the garment;  
affixing the outer layer on the inner layer over the middle layer such that the outer layer covers less than all of the inner layer.
26. The method of manufacturing a multi-layer seat pad for a cyclist garment of claim 25, further comprising forming a plurality of perforations through the seat pad such that each perforation traverse through the inner, middle, and outer layers.
27. The method of manufacturing a multi-layer seat pad for a cyclist garment of claim 26, wherein the forming of the perforations comprises forming permanently compressed

areas on the seat pad and then punching a hole through the seat pad at the permanently compressed area.

28. The method of manufacturing a multi-layer seat pad for a cyclist garment of claim 25, further comprising forming at least one thinned hinge line on the seat pad to provide flexibility thereto.

29. A seat pad for a cyclist garment, comprising:  
an inner layer for contacting a cyclist; and  
a compressible, resilient layer bonded to the inner layer;  
wherein the compressible resilient layer covers less than all of the inner layer and the bonded inner layer and compressible, resilient layer are fixed to the cyclist garment.

30. The seat pad of claim 29, further comprising ventilation holes extending through the seat pad, the holes being inset into a surface of the seat pad.

31. The seat pad of claim 29, wherein the inner layer includes upper thigh portions for contacting a thigh of the cyclist, the compressible, resilient layer being shaped and sized so as not to be disposed on the upper thigh portions such that the upper thigh portions affix directly to the garment.

32. The multi-layered seat pad of claim 29, wherein the outer layer includes a surface area of approximately 50-90% of a surface area of the inner layer.

33. The multi-layered seat pad of claim 29, wherein the outer layer includes a surface area of approximately 60-80% of a surface area of the inner layer.

34. The multi-layered seat pad of claim 29, wherein the outer layer includes a surface area of approximately 70-80% of a surface area of the inner layer.

35. The multi-layered seat pad of claim 29, wherein the outer layer includes a surface area of approximately 75% of a surface area of the inner layer.
36. A seat pad for a cyclist garment, comprising:  
a first side;  
an opposing second side; and  
perforations formed through the seat pad so as to traverse from the first side to the second side.
37. The seat pad of claim 36, wherein the perforations each comprise a recess inset into at least one of the first and second sides of the seat pad and a hole formed through the seat pad at the recess.
38. The seat pad of claim 37, wherein the recess comprises a permanently compressed portion of the seat pad.
39. The seat pad of claim 36, wherein the perforations comprise first recesses disposed at the first side and second recesses disposed at the second side, the first and second recesses being disposed oppositely and correspondingly such that holes traverse through the seat pad from the first recesses to the second recesses.
40. The seat pad of claim 36, wherein the perforations are formed through the seat pad in an area corresponding to a buttocks region of the cyclist.
41. The seat pad of claim 36, wherein the perforations are formed through the seat pad in an area corresponding to a crotch and a lower abdominal region of the cyclist.
42. A multi-layer seat pad for a cyclist garment, comprising:  
an inner layer for contacting the cyclist;  
an outer layer for affixing to the garment; and

a compressible, resilient middle layer disposed between the outer and inner layers;  
wherein the middle layer includes a thermal control material having thermal energy storage and insulative properties.

43. The seat pad of claim 42, wherein the thermal control material comprises a foam base and a plurality of microcapsules disposed in the foam base, wherein the microcapsules contain a phase change material.

44. The seat pad of claim 42, wherein the phase change material comprises at least one of eicosane, plastic crystals, and paraffinic hydrocarbons.

45. The seat pad of claim 42, wherein the outer layer covers less than all of the inner layer.

46. The seat pad of claim 42, further comprising a plurality of perforations formed through the seat pad so as to traverse through the inner, middle and outer layers.